

Below is the text version of the Home Energy Score Update: New Simulation Training and Requirements for Assessors webinar, presented in March 2015.

Patty Kappaz:

Cover slide of presentation:

... taking your questions. So our team is very excited to share with you the latest developments from the Home Energy Score program. Joan is going to begin with a brief overview of the Home Energy Score for anyone who might not be too familiar with it, or as a refresher for other folks. She'll also share the latest program highlights and then we'll turn it over to Glenn Dickey to provide details on our new assessor requirements, and then he will also give a nice live demo of the new 3D simulation training tool, which we just launched last month. So we're really excited about this new training platform, as it's going to open up the market for many more types of buildings professionals who are now eligible to become assessors and score homes. Glenn will also give a quick update on the next version of the scoring tool, which will be released later this month, and then he'll turn it back over to Joan to close with what's coming up next for the program. Before we start, just a few quick logistics. First, the webinar is being recorded, and we're going to post the recording along with slides to the HomeEnergyScore.gov website within the next week or so. Also, all of your lines will be muted throughout the webinar, but we would love to get your questions. You can submit questions at any time during the webinar by typing them in to the questions box. And we're going to pause a few times throughout the presentation to take some questions, and then there will be more time at the end to take additional questions. So we're going to try to get through as many of your questions today as we can. If we're not able to get to your particular question, we will follow up with you by email. So let's go ahead and get started. I'm going to turn it over to Joan Glickman to kick off the presentation. And just want to thank you again so much for being with us today. Take it away, Joan.

Joan Glickman:

Great; thank-you, Patty. And unfortunately, because I do not have control or cannot see the webinar for some reason, I'll just say that I'm on slide 3 right now and whoever's moving them forward will know when I want to go to the next one.

Slide 3:

OK. So thank-you very much, everyone, for calling in. I'm going to give a quick overview just for those who either are not familiar with the program or it's been a while since you've heard about it. So I'll just give you a quick update, and then as Patty said, we'll move on to some other new developments and you'll see a demo of the tool that we just released. So the Department of Energy about five years ago came up with the Home Energy Score to really act as a miles-per-gallon type of rating for homes. The feeling was that, while people could get a lot of information about the energy efficiency of their homes and get audits done, there was really no low-cost method for them to get reliable information that they could act on and also could have at time of purchase, so that they could compare homes on an apples-to-apples basis. So that's really why we developed the Score. Slide 4.

Next slide:

To generate a score, you obviously have to be a qualified person — we call them assessors. And it will take someone an hour or less to complete if they're already going through the house to do

a home inspection or to do an energy audit, the additional time should be much less than an hour, because they're already collecting a lot of the data that they would need. It's free to use, and there's absolutely no reporting required. In fact, whoever uses it can download the data themselves and look at it, and our partners can receive all the data that was collected and also the computations that were made on those homes. So that's useful to them. Next slide.

Next slide:

The report that the homeowner gets is really — if they're getting the actual report that we generate — the standard report has three sections. The first is — actually, if you can go back to the last slide. The first is the score report, which shows you that this home is a 3, in this case, and it can improve up to a 7, cost-effectively with energy efficiency improvements that could be made to the heating, cooling, or hot water systems, as well as insulation, air sealing, all the things that you'd want to do to the asset features of the home to make it more efficient. It also gives you an estimate of how much you could save, given those improvements. The second part is on slide 5. That's the home facts, and here it just really details all of the data that was collected by the assessor. So everything they measured in terms of insulation and what kind of heating system they had, what the SEER value was, the air conditioner, those kinds of things. And then the part that's circled here on the left side of the slide are actually the computations that are made by the tool itself. So the tool runs an energy simulation model of the home and says, under standard operating conditions — we're going to assume everybody sets their thermostats a certain way and takes the same number of showers and all that — and we're then going to assume it's a standard weather year for that location. So based on all that, how much energy is that house going to use a year? And that's what the total is there. And then it also breaks it down into the energy types of fuel uses that are in that home. So if it's using electricity, it will show you KwBh. If it's using natural gas, it will be therms. If it's using propane, oil, whatever the types of fuels are in that home, it will give you a breakdown of what is expected to be used in one average year for one average homeowner. Next slide.

Next slide:

The third and final part of the report that comes standard with the Home Energy Score are recommendations. And these recommendations are broken up into what you can do right now to improve the home — and usually those are things like adding insulation to attics or walls, air sealing, sealing your ducts, those types of things — and then what can you do when you're ready to replace equipment, whether it's heating, cooling, or hot water. There are things you can do, obviously. If you pick an ENERGY STAR[®] labeled furnace or boiler or whatever, you can save energy that way, as well. So we compare it to the existing system and tell you how much you can save. Now if you, the assessor, is qualified to provide your own recommendations because you have an energy background, and you want to provide more detailed recommendations or other recommendations not ours, you can certainly override these. And you wouldn't show the homeowner both sets; you'd just show them your own. And the tool can then use those recommendations and tell you how much the home would improve, given those improvements. For instance, if you're doing things that we don't take into account like changing out lights, you certainly could recommend that, but that wouldn't change your score. But if you're making changes to insulation, heating, cooling, etcetera, those would show up in the final score. Next slide.

Next slide:

So one really handy thing that we've made available — and these are widespread throughout our lives. We're using APIs all the time, these things called application programming interfaces. And what the API really is, is it's a thing you don't really see. It's in the back end. Basically it's a way for one energy software system, whether it's an energy auditing tool or a home inspection tool, if you're using some kind of software, if that software tool works with our API, they can send the data that's needed to score a home directly to our scoring tool, and you never really see that link, but it's there. And that way, the assessor, if they're going out and doing a home inspection and they want to generate a score at the same time, they can send the appropriate data via the API, and it will generate the score, and it will also generate all those calculations that I mentioned earlier, like energy uses, etcetera. And also the recommendations, of course, if you want to use those. We have several companies that have already integrated the API into their systems, and so it makes it particularly easy for users, because they're already used to using whatever system they're using. And this is just an add-on feature that they now make available to their customers or clients. Next slide.

Next slide:

So at the last, I guess, almost three years — we pretty much launched the program officially in 2012, mid-2012 around June. And since then, our partners have scored nearly 18,000 homes, the work of 90-plus active assessors at this point. And we're expecting many, many more assessors and partners to join, and we're excited about that. What these partners have found is that it's very easy to integrate the Score into what they're already doing. So if they're performing various kinds of services, audits, etcetera, for their customers, this is an easy add-on and a useful way to communicate with homeowners or homebuyers. It's also a really useful analytical tool for those partners, because as I said, they can download all the data that was input and output from the homes that those — that fall under their jurisdiction. So if they have 10 assessors that are scoring 2,000 homes, they can download that information at any time. Homeowners really do understand the simple 10-point scale, something we're all pretty much used to from grade school on. Being evaluated on the 10-point scale is pretty easy to understand. And we're very excited that over the last year or so we've made a lot of headway with states that are interested in using the Score. And I'll talk about that a little later. The ones that are already adopting it or are exploring adoption. So we have several, and I'm going to talk about the ones that are the furthest down the road a little later. We also have some local governments that are considering using the Score for disclosure policies. In fact, I think one of them just did pass an ordinance that would use this as part of what they will disclose at the time of sale. So we're very excited about all that. And we really owe our success to all the great partners and assessors that are out there actually scoring homes and using the tool. Next slide.

Next slide:

What our partners have shown us, and I think we've been pretty good at this, as well, is you can really customize the Score and the tool and the features that it provides to really meet the different needs that you might have as a provider. And so Home Energy Score has been integrated into lots of different types of programs and services. For instance, a number of our utilities have Home Performance with ENERGY STAR programs, and they're using them in those types of programs where you go into a home, make improvements. You might score the home before the improvements are made, and then show the homeowner that, wow, that

investment that you made not only made your house more comfortable and saved you energy but also is something you can show off when you're ready to sell your house, because now you have a higher score. Direct install programs, where they're going in and changing out showerheads or putting in LED lights, they are also — Focus on Energy is our lead on that. And they've incorporated the Score into some of their direct install programs. New Jersey Natural Gas, which is our largest partner in the Score, the most homes, they have a utility rebate program, which obviously a lot of utilities have, where they actually go in and do a quality assurance review of the equipment after it's been put in, the more efficient equipment. So they offer the Score at that point to encourage homeowners to actually take additional steps that would make their homes even more efficient and hopefully more comfortable. And we're excited that we're starting to venture into the real estate transaction world with the State of Colorado. And others, but I'd say Colorado is the furthest along in trying to make the linkages between all the different pieces of the real estate transaction, and making sure that something like the Energy Score is used and helps make sure that efficiency is part of that equation. OK, slide 10.

Next slide:

So I'm about to turn it over to Glenn Dickey, who's going to give you an update on the announcement that we made recently in terms of training and testing and the new advances we've made there. But I'll just tell you that we did spend quite a bit of time with outside experts — I'd say more than a year; I think it was close to two years — developing the 3D tool that he's going to give you a demo of. Interplay Energy was the company that developed it for us, and they did an outstanding job. And they've done similar types of tools, which is how we got involved with them. Basically what it is: It allows somebody who wants to become an assessor, it allows them to go and look through lots and lots of different types of homes and learn exactly what types of information they need to collect and collect correctly and measure correctly in order to score a home consistently. So that's really the purpose of that. We did a whole classroom as well as in-field validation study, which led to the fact that now we've changed the requirements for our assessors, and we now recognize many more different certifications that are available for different organizations. And so we're excited that not only will people get better training and better testing, but now we can open up the world of scoring to a much larger group of qualified folks. So that's what Glenn is going to talk to you about. And Maddie, I guess I could take a couple questions. I don't know if we're running over time or not, but maybe a couple questions right now, if we have any?

Maddie Koewler:

We did get a couple questions. I'll just start with the ones that we got first. Are there any plans soon to incorporate water use and savings into Home Energy Score?

Joan Glickman:

That's a great point. And I know the Department of Energy and other federal agencies like EPA are very concerned about water. It's clearly a problem for this country and the world. We do not unfortunately have a plan to incorporate it right now. But that said, I think there are talks of others getting involved in seeing if there's some kind of companion piece that might be potentially used with the score. I don't have any specifics right now, but I will definitely raise that again to our leaders here to see what we might be able to do. And we've been talking to EPA

about different kinds of collaboration we have with their tools, so maybe that's a role that they can also play.

Maddie Koewler:

Another question that we had was, do we have access to a list of assessors that are active in respective areas?

Joan Glickman:

Yea. I think I'm going to let Glenn answer that, because he knows more about how we're posting all that. But that is something we are going to be doing soon, because it's something that is required by HUD — I'm hoping we're moving forward with a new policy where banks and others would have to assign assessors in their area. So it shouldn't be too hard to do, but I'll let Glenn answer that more thoroughly than I can. Is that it? Or, he can answer it when he's ready to speak, I guess. Anything else, Maddie?

Maddie Koewler:

There are a couple more.

Joan Glickman:

Let me take one more, then we'll go to Glenn.

Maddie Koewler:

OK. One we have is, are there plans to develop the scoring tool for multifamily buildings?

Joan Glickman:

We do actually have a scoring tool for multifamily. It's called the Commercial Building Energy Asset Score. And I'd be happy, if you write in to us or if we have the name of the person who submitted that question, I'd be happy to send you information about that tool. It's a little bit more comprehensive in terms of what you have to put in, and depending on how complicated the building is, it'll take you a little longer to score it. But it's very similar in the sense that it runs an energy model of the building and calculates how much energy it would use under standard operating conditions and then gives you a score. It's also a 10-point scale, although it has half-points. So you could get like a 3.5, as opposed to just a 3 or a 4. It's called the Commercial Building Energy Asset Score, and you can find it on our website, but I'll also — we'll make sure that we provide information to you. OK. So should we pass it on to Glenn at this point? And we'll come back to questions at the end.

Glenn Dickey:

Next slide:

Joan doesn't take enough credit for herself. She has as much information about how we might provide the list of assessors. At this point, we're still in the process of coming up with a best way to do that, so at this time, it's not available. But hopefully before too much longer, we will. As the new assessor requirements, as Joan pointed out, we worked through this validation study and basically determined that the sim that I'm going to demonstrate provides a large amount of the information that assessors really need to be able to accurately and effectively score a home. So given that, we've changed our assessor requirements. And what I'm going to do here is just

compare and contrast what we did have to where we're going or where we are now. So previously, we required a BPI / BA, building analyst or HERS rater. We've now worked with industry to determine what the certificate requirements should be, given different groups. The next slide is actually going to spell those out, so I'll hold off for that. Previously, the practical test was based on house characteristics being described on a piece of paper, and the assessor candidate was required to input it into the score. Not really very true to life. Now they actually work through the sim and collect the data and score a house, and when they pass, when they get the required score, then they've demonstrated that they actually have an ability to effectively score a house. The written exam — previously the written exam was 50 questions. It was sort of the primary gate. We found during that validation study that that probably wasn't really a very effective means of determining ability. It did include building science questions, as well. Again, based on the validation study, we found that we were better off focusing on the actual details of the Home Energy Score. So that 20-question multiple-choice there is based more on what is the Home Energy Score, what do the numbers mean, and being able to explain to the customer or the homeowner what it is that they've got. As before, we continue to require that the partner provide 5 percent on-site quality assurance. So 5 percent of the homes scored under a partner's jurisdiction have to be rescored on-site. That has not changed. We do have one new requirement. Previously there was no mentoring requirement. Now the first house that any assessor does needs to be mentored. An experienced individual needs to go out with them. They should work together to make sure that the new assessor understands the importance of getting the data right, which things make the most difference. We found and our studies have shown that you need to get the square footage right. And so that's what the mentor's out there to do, is reinforce things like that and make sure that they are indeed doing some of those measurements correctly. Next slide, please.

Next slide:

So this is the new list of minimum accepted credentials. And I point out "minimum" here, because this — there are certainly higher levels of certification, and BPI is an example of that. They have many certifications higher than the Building Science Principles Certificate. If an individual holds one of those certifications, then they would not need to have the Building Science Certificate as well. Same thing applies to the NREL Home Energy Professional certifications. They would not need to hold any of these if they held that. You can review this list also on our website, so I won't go through it on a line-by-line basis. I think now I need to switch controls so that I can run through the sim.

Next slide (sim screen):

OK. So when the partner is required to provide to us the assessor contact information, when we get that information, we provide to the assessors the information they need to log on to and work through the sim. The first time they log on, this is where they land. The first requirement is that they download this Unity player. This is what actually drives the sim in the background. If they don't have that, then it doesn't work. They only have to do that the first time they log in. Once they've done that, they don't have to do it again. We provide several different levels of support or guidance in working through the sim. The first thing is a short video, and it gives a very high-level overview of the simulation. The step-by-step user guide to House No. 1 is exactly that. It's actually how do you fill out each of the data points in the first house in the first scenario. And then in between that, and I'll show in a minute, is what we call a tutorial. It kinda falls in between

those two things. It gives some sort of step-by- step, pointing out what the tools are, some of the stuff that you're going to see during the demonstration. Takes a little longer than the video, not near as long as the step-by-step guide. So we try to provide different methods for people to learn to use the sim. The next tab over is our training resources. This is broken down much like the data entry in our web interface, which also is mimicked in the simulation tool. You can click on any one of these, and this brings up a PowerPoint that goes through, again, the items that are listed within that data entry group. There are, again, some tips on playing the sim, so another level of explanation. And then for our overachievers we provide some building science information, as well. When they're actually ready to start working through the sim itself, we click on 3D Practical Training. And we have three houses. Each of the three houses has 10 scenarios, and to start that, we'll click on there under the Training mode. So there's a Training mode and a Challenge mode. The Training mode provides, again, 10 scenarios. They're welcome to spend as much time in this as they want. They pick a house, they click Play, and they move through the sim, collect the data, and then submit it. And then they get a report back — and I'm going to show all of this — showing how well they did. Once they're comfortable with the sim, to actually get to the certification and qualification as an assessor, they need to go through the Challenge mode. So once they're comfortable with the sim itself, they do the Challenge mode. And each of the three houses that we showed here, they need to score an 80 or better on each of those. Once they've shown that proficiency or they truly do understand — that's what we're trying to see, is make sure that they understand the sim from front to back. Each one of those houses focuses on a different set of details, so to speak. The first house is fairly easy. Get yourself comfortable, feet wet sort of thing. The next house is a little more difficult; a little more data manipulation is required. The third house is a townhouse. So that house is a little different and has to be treated a little differently. So once they're comfortable with those three houses, then they go into the test mode, where they have to score two houses they haven't seen, that they need to score 90 or better. Once they've done that, they become a qualified assessor, have access to the tool, and can go out and start scoring homes. It takes a minute for this to launch, so I'm going to skip the step of actually launching and go through an open version of the tool.

Next slide / screen:

This is where the assessor will land. Oh, and one thing, too: What you're going to see tends to jump a little. The webinar slows things down a little bit. The movement through the tool is much smoother for the candidate, the person working through the interface. It tends to be fairly smooth. You guys may see it jump a little. So we start off here at the front door. We've got several different tools here around the frame. The first one is the clipboard. This is where they actually collect the data that's provided, they enter the data that they collect as they work through. And we'll see that again. Here's our footprint, so it helps orient the user, it gives them a better idea of how the dimensions that — we'll see the dimensions shortly — how those line up with the house itself, so that they can calculate their square footages, so they can easily determine things like the number of bedrooms and the number of stories. We have a calculator here; if they don't have one sitting at the desk, then they can use this for calculating their square footages for windows in the house. We have what we call our data manipulation rules. This tends to be for more complicated houses, where some data may need to be squished. So if you've got HVAC systems, there's some rules as to how you define which ones are going to be entered. That's all spelled out here. And lastly, their toolbox. And these are the things that are used to collect the data. So things like the tape measure for measuring the dimensions of the house, as

well as the windows. We use the ruler for measuring depth of insulation, the compass for orientation, things that like. And then at the top of the screen — and here's the button for the tutorial. So the first time they come in, they can turn this tutorial on and work through the steps that it provides. Here along the top of the screen, we've got what we call teleport buttons. Instead of having to walk through the house you use these to jump from place to place. That makes it a little bit easier for the assessor to — they don't have to spend quite as much time just moving around. So let's sort of show how somebody might collect data.

Next slide / screen:

So we move around, again, using the cursor buttons on the keyboard. We're going to determine our square footage. So we open our toolbox, we turn on our tape measure, and we can now see the dimensions for the house, as well as for the windows. And we can start working on collecting the information. So again, you might want to pull out your footprint, to line those up with the dimensions. You can move to the right and left in the back of the house to verify those lengths on each of those sides, so that we can then calculate our square footages. We open up our clipboard, and we start entering our information. The things that you typically find from a homeowner are here in the comments box, and they just get transferred to the spaces. We noticed in our pull-out that we had two bedrooms. It's one story high. If we go inside real quick, we can see that we're nine feet tall. If the house has multiple stories, then they have to do an average. I know based on what I've done before that we have an 1,148- square-foot house. And that it faces west, southwest. There are — again, we're told here that we have a blower door, and we would enter the blower door data. I'm not going to go through a whole data entry set. I just want to show you how this works. And then we work through the other tabs. We've got several things here. We've got these globes; these go back to the training resources that are appropriate for that page. We have the red question marks. Those mimic the help tips that are provided in the Home Energy Score gooey. And then we also have — I'm sorry, the red ones are for the sim; the blue ones are for the gooey, line up with the gooey. So let's say we want to then measure the attic insulation. We jump to our attic, pull out our ruler, we'd measure our depth, we find that it's three inches. We notice that the insulation is pretty well installed. We go back here, and there's another — there's a calculator that we provide for determining our insulation. I'm going to again take a quick shortcut here and show you how this works.

Next slide / screen:

So in this case, I've actually already filled it out. But we have fiberglass batt ... That is well-installed, and was three inches deep. And so we know that we need to enter R8 into our tools. So we would go choose our unconditioned attic, and enter our insulation depth. We don't have an R8; the rules are round to the nearest. So we're going to pick an R9. And we're going to close that out. Put away our tools. And we can then — for example, we can then go down to the crawlspace, gather the information about our heating system. Once you're done, once you've gone through all five tabs and collected all the information on your systems, your windows, your skylights, foundation, walls, etcetera, we end the sim. If they don't end the sim, then you end up not getting a report out and so they can't really tell how well they've done. I'm going to skip while that runs through that. You get an opportunity to view the report.

Next slide / screen:

And what that then does is provide this kind of reporting, so it tells you what the correct answer

is, what answer did you provide, and then how many points you got. And ultimately you scroll down to the bottom, and you want to compare this number to this number. In the Challenge mode, you want to see at least an 80 on each of the houses. In the testing mode we want to see at least 90 in each of the houses. That is the Home Energy Score 3D simulation tool. Does anybody have any questions?

Maddie Koewler:

We did get a couple. The first one is, do you perform a duct leakage or total duct tightness test?

Glenn Dickey:

We do not. The tool will — you can't characterize whether the ducts have been sealed or not. But we do not collect, or we cannot accept the data for a duct leakage test.

Maddie Koewler:

Next question is, does this work with condos?

Glenn Dickey:

No, it does not. Well, there are several different definitions for condos. It does not work for anything that is bounded on the top, bottom, or back. So we can deal with roadhouses, townhouses, but not anything that has an adjoining unit above, below, or behind.

Maddie Koewler:

And another question we got was, is the Unity player Mac- compatible?

Glenn Dickey:

I believe that it is. But I can't guarantee that. I will find out and we'll get back to you.

Maddie Koewler:

And then, the last question that came in during Glenn's session was, does it work for houses with brick walls and concrete slabs?

Glenn Dickey:

Yes, it does. ... It'll handle just about anything, including straw bale. We can even do straw bale. There might be one or two HVAC systems that we might need to do a little work around, but if you run into problems, just let us know, and we'll figure something out for you.

Maddie Koewler:

I think we'll take the rest of the questions that are coming in at the end.

Glenn Dickey:

OK. Gannate, I'll go ahead and take the next couple of slides, since I've got them up.

Gannate Khowailid:

Glenn, you missed slide 13. Can you go back to that one real quick?

Glenn Dickey:

Slide 13:

Sorry. So the steps to becoming an assessor. Again, they need to work through a Home Energy Score partner. Go to our website; you can see a list of partners there. If there are no partners in your area, you can work through a national partner, for example, the BPI rating program. Only those who are working with a partner can score homes and gain access to the tool. The partner provides us the information, which, about the assessor, which implicitly indicates that they will be providing the QA. So we do have to get the information from the partner because we do need to know that they're going to have QA provided, for them to mentor, will be provided. The sim is available 24/7. They're welcome to get on whenever they want to, work through it at their leisure, at their convenience. When it comes time to take the test, there's no proper registration required. And again, they can work through the training as many times as they want. Once they pass the exam, which is, again, free, they become a qualified assessor and can start scoring homes.

Next slide:

Now, the new scoring tool. We have a new version. We're calling it 2015. I have my fingers crossed that we will have it launched the weekend of the 15th, March 15. It will — currently the tool only accepts one HVAC system, one roof or attic type, and one foundation type. We're upping that to two. This should make it a little easier on the assessors. They won't have to do quite as much data manipulation to make multiple types fit into one field. The new system will also model wood heat, both as a wood stove using cord wood, or as a wood pellet furnace. I believe that is me ...

Next slide:

Joan, I think it's back to you.

Joan Glickman:

Great; thank-you very much. OK, great. So —

Glenn Dickey:

I'll just — I can run the slides from here.

Joan Glickman:

OK, great. So this is my attempt, feeble as it is, to be artistic. So we're going to give you an update on what's coming up next, and we do have a lot of exciting work that we're doing around the country. So next slide.

Next slide:

So, as I mentioned previously, a number of states are really taking leadership roles in ensuring that many homes are scored, thousands of homes are scored in their states, and that there's a consistent way to provide that information to homeowners and homebuyers. So Connecticut, I believe, will be the first one launching, and they're all happening this year. Some of them sooner than others. I think most of them are this spring sometime. Connecticut is integrating the Home Energy Score into their Home Energy Solutions program, which is a Home Performance with ENERGY STAR program, and they reach about 11,000 homes annually. So we're excited to

have them on board. They're also using the Home Energy Scoring Tool to help them track their progress toward the state's 80 percent — their goal or their mandate to weatherize 80 percent of all homes in that state by 2030. Colorado is really doing a lot of innovative work in this area. They now link the Home Energy Score to incentives. If you're buying a home or entering into some loan or refinancing a home, you can receive up to \$3,000 based on how much improvement you make in your score. So if you go from a 3 to a 5, that's two jumps; you get \$1,500. If you go four jumps, you can get \$3,000. So it's \$750 per jump. They're really working to get this information into the real estate transactions and capitalize on what is often, I think, homebuyers — although sometimes you're cash-poor, you can certainly think about this when you're taking out a loan, and make investments soon after you've entered a home. Because we know that a lot of investments are made in the first year, therefore, you only have nothing to do with efficiency, but we're hoping to capitalize on buyers' investments to improve their homes at that time, and make sure that efficiency is on their menu of things that they need to do. Vermont has adopted the Home Energy Score as a key component of that state's own voluntary labeling program, and so I expect that they will also be scoring thousands of homes. They take a number of different metrics out of the Home Scoring Tool and use it on a customized state label that they call the Vermont Home Energy Score. Missouri just announced a home energy certificate program, which uses HERS, the Home Energy Rating System, as well as Home Energy Score, either/or, to recognize either a very, very efficient home, or improvements made in a less-efficient home as long as it improves a certain amount, and I believe they have like a gold and silver certificate related to those different kinds of standards. OK. I'm talking fast because I think we have a lot of questions.

Next slide:

We are doing a lot now, given that folks have scored about 1,800 homes; we're really at the point now where we're trying to figure out how this data can be more readily used in the whole real estate transaction and financing. So there's another tool that DOE developed called the Standard Energy Efficiency Data Platform, which a number of states are using in the commercial building world. And the nice thing about this tool is it lets you bring in data from lots of different sources, so it could be tax assessor information, and utility bills and all sorts of different information included in the Score. You can match them up very easily given the tool's capacity and capabilities. And then you could share that information as you see fit. So it's something that states or localities would probably be using. And we're working with them to see how that most readily can be done. We're working with the Department of Housing and Urban Development, FHA, to initiate an incentive with some other loan programs. They're thinking about offering a 2 percent stretch to expand the amount that people would be qualified in terms of their debt-to-income ratio. When they purchase either an efficient home, or if they're planning to make improvements, it would go up a certain amount on the Home Energy Score. So again, the Home Energy Score would be used there to affect the way lenders hopefully will be considering this in that transaction. And lastly, not only on the underwriting side but on the appraisal and evaluation side, we're excited to try to move forward — it's a little bit difficult — but we are trying to move forward in seeing if appraisers — they can already use the Home Energy Score in the Green Addendum that appraisers have. But unfortunately, that's not widely used. So we're hoping that appraisers will want to use the energy cost information that can be generated by Home Energy Score at the same time, and so they could take that into account when they are evaluating a

property. So that's something we're moving forward on. I can't say it's going to be overnight, but I hope that we will continue to make progress. Next.

Next slide:

Since we have a lot of questions, I'm just going to skim over this very quickly. We have a number of evaluation studies going on with experts from actually the White House Behavior Science Team, or something like that — sorry. And Yale, Harvard, and MIT professors and economists who are working with us, to work with our partners who are undertaking randomized controlled experiments where they're looking at, if you provide the Score in a certain way, or not at all, and what the differences are, with controlled samples as well as test samples, or treatment groups. What the differences are in terms of, does it lead to greater conversion and getting people to invest in improvements? Does it lead to faster sale time when you're buying a house? All of those things are the types of things we're interested in exploring, and we've begun some of those. One interesting thing — and I'll say it quickly — is that some of these leading thinkers have looked at whether or not, if you make something observable, it leads to greater action. So we're working in Colorado to make sure that the information that's done there in terms of scoring homes is observable and may lead to others taking note and taking action. So this deserves a lot more attention, but I think given the time, I've got to move on.

Next slide:

We will be at the upcoming conference, ACI, which changed its name now. I'm forgetting it right this second. The National Home Performance Conference, I guess it's called, in New Orleans. Kind of the leading industry conference in this area. And we have a number of sessions there. We hope to see you. If you're going to be there, please come and see us. Next.

Next slide:

And I think most importantly, if you're interested either in becoming a partner or because you have an organization or a company that can score at least 500 homes a year, and you have the capability to get quality assurance performed for those homes that are scored by your assessors, please contact us. That's what you need to do. You need to be able to oversee assessors. They don't have to be working on your rolls, but they do need to be folks that you have some relationship with and can provide a 5 percent rescore of their homes. If you're an individual or a small company that has a number of individuals who want to be assessors, the way to do that is you need to hold one of the credentials that Glenn mentioned. And once you do that, you can find a partner in your area. If one does not exist, you can look for one of our national partners. BPI is certainly one that you should look at. And as long as you're working under a relationship with a partner, you can take our training, take our test. It's all free. And then you can get started; once you pass it, you can get started scoring homes. Next.

Next slide:

And this is how you get in touch with us. And if you're interested, as somebody was, in the commercial score, you can also reach us here and we will — for commercial buildings, we'll be happy to send you to the right place for that, as well. OK, so I think we have about 10 minutes for the remaining questions.

Maddie Koewler:

OK. Let's see here. Is Home Energy Score used on new construction homes?

Joan Glickman:

The Home Energy Score can be used on any single-family home. It wasn't intended for new construction. It's primarily used for existing homes. It's not something to show you if you're complying with code. So typically people use HERS, which can do that and compares you to 2006 IECC code. The Home Energy Score does not do that. But it can tell — it can run an energy simulation on any single-family home and tell you how much it's likely to use, and then score it based on that.

Maddie Koewler:

OK. Next question is, once you're a qualified assessor, is any recertification required?

Joan Glickman:

I think the answer is no. Glenn?

Glenn Dickey:

No, the only thing is that you have to stay active. If you don't stay active, then you're required to go back and do what we call a refresher, which is just go back into the sim and show that you still remember what you're doing. But other than that, there is no "recertification."

Maddie Koewler:

Next question is, is the blower door test required?

Glenn Dickey:

It is not.

Joan Glickman:

You can take a CFM-50 number if you do do one, and it can use it. But if you don't do one, you don't need to. I mean you don't need to. Sorry.

Maddie Koewler:

OK, next question is, do you need to do infrared thermology to gauge insulation?

Glenn Dickey:

No, you do not.

Maddie Koewler:

OK. Let's see here. Next question is — sorry, Joan, were you saying something?

Gannate Khowailid:

No, this is Gannate, Maddie. There are a couple questions from Home Performance contractors that are asking about the possibility of working in a new market where there's no partner existing there, and I was wondering if Joan wanted to mention quickly about BPI and the national partners?

Joan Glickman:

Sure. Or if you prefer, Gannate, you're free to answer, as well. What would you prefer?

Gannate Khowailid:

Go ahead, Joan.

Joan Glickman:

OK. So BPI, the Building Performance Institute, is a national partner of the Home Energy Score program, and we're excited to work with them. They do offer to individuals or to small firms or large firms, I guess, as well, they can provide the quality assurance review that is required for being an assessor. And so I strongly encourage folks that are interested in becoming assessors to contact them and see what their program offers and their specific requirements that are outlined on their website as to what you need to do to be a rater in their program.

Maddie Koewler:

Another popular question that I've seen is what is the cost of the Score?

Joan Glickman:

It's market-driven. There's no cost. You certainly aren't paying DOE anything to use the tool or any of that. So the only cost to the person performing it is their time. And then it's just whatever the market will bear if you — it's up to you to decide how much you want to charge for it.

Maddie Koewler:

Another question I see is, do assessors actually need to work for the partner directly, or do they just need to be sponsored by the partner?

Joan Glickman:

They just need to be sponsored. There's probably better terminology we need to come up with, but pretty much you need to have your quality assurance provided by someone who qualifies by us. And so partners are the ones that do that. And since DOE can't go out and reevaluate 5 percent of the homes that each individual does, that's why we have partners who can do that. Many of our assessors don't work directly for partners.

Maddie Koewler:

OK ... A lot of questions came in; I'm just trying to find a popular one.

Gannate Khowailid:

There's a quick question for Glenn. How does Home Energy Score accommodate more than one heating system?

Glenn Dickey:

Under the current version, there are rules, guidance on how to provide that information. Under the 2015 version that will be released within the next 10 days or so, it will take two systems, which should take care of 90-plus percent of houses. If it doesn't, there are, again, rules depending on system type and fuel use as to which ones are modeled and how the data gets manipulated.

Maddie Koewler:

OK. My final question was, what data do you collect with Home Energy Score and how do you evaluate it?

Glenn Dickey:

I'm not sure I understand the question, but I'll attempt an answer. There are about 40 data points. So heating, cooling, and hot water systems information, such as type, fuel, efficiency. We also collect information about the envelope itself. So window type, number of panes of glass, whether there is a low-E coating, wall type, insulation level, outside sheathing, attic insulation level, roof is whether it's insulated, what's the type and the sheathing on that, and then orientation, square footage, number of stories, number of bedrooms. Totals about 40 data points.

Joan Glickman:

There's a data collection sheet on our website, if you want to look at it. You don't have to use the data collection sheet, but it will tell you what you need to collect. But in terms of, I think they were asking how do we evaluate the data? Well, the Score is generated by doing an energy simulation, and again, it's a little hard to know what the question meant exactly, but in terms of quality assurance, we do require the 5 percent rescore of homes, and then we do compare the two results, of the original assessor to the one that was done by the quality assurance provider. And we also do and actually are looking to improve the way we do analysis of all the data to make sure that, if things seem odd, hopefully we will see those kinds of trends, if there's problems. And Glenn has been in very good communication with our partners. If there's anything weird that comes up in the simulation, he hears about it.

Maddie Koewler:

Gannate, was there any more questions you wanted to ...

Gannate Khowailid:

There were a couple of questions about where we have partners and then a question in Illinois, and then another question in Maine. And Joan, should I take it quick, or do you want to take it?

Joan Glickman:

Yes.

Gannate Khowailid:

OK, cool. So in general, we have a map on our website that identifies the partners that we are currently working with. But we are in a continuous search in identifying new partners that we could work with to offer the Home Energy Score. So if you are working in a new market and you are free to kind of take our message to your state energy office or your utility or maybe an NGO, and explore the possibility of offering the Home Energy Score there. We would love to work with you.

Joan Glickman:

We're also exploring — we did have a couple other national partners like American Society of Home Inspectors, and I think that they're trying to figure out — at one point they were looking at

ways to provide quality assurance. So there might be other associations that will step up and be able to provide that on a national basis. But right now, BPI is definitely available for that.

Maddie Koewler:

Do we want to continue taking questions for a couple minutes, Joan?

Joan Glickman:

Yes.

Maddie Koewler:

How does the software compare to Energy Plus?

Joan Glickman:

I'll take a quick crack at it, but maybe Glenn can also do that. Basically we went with DOE-2 because it was the one that was widely used in the residential market, and it was also what Home Energy Saver runs off of, and this is basically like a constrained version of that. So it was an effective way to move forward quickly. We've done a lot of evaluation to show that it's very accurate, and at least as accurate as other tools that are being used in the residential market. We use Energy Plus for the commercial building asset score tool. because it does have a lot of other capabilities that the DOE-2 tool doesn't have. But at this point, we're sticking with DOE-2 for this. It's working well. And there's always a possibility that we would look at Energy Plus. But right now it's not easy to do. It takes longer, it's more complicated, it doesn't work right now to do that.

Glenn Dickey:

I have nothing to add.

Joan Glickman:

OK.

Maddie Koewler:

Alright, so one question is that, is the online testing and training the same no matter who the partner is?

Glenn Dickey:

Yes.

Maddie Koewler:

Alright. And then, maybe we could end with this question: What are the benefits of joining as a Home Energy Score partner?

Joan Glickman:

Well, first of all, you get to work with our amazing team! But I think that we offer a lot in terms of just the ability to communicate with your customers. And what we've found in focus groups and discussions and research that's been done is that you often have a limited amount of time to get in front of the homeowner or homebuyer, and they have lots of information flying at them,

and we all do every day. So this is a way to capture that information in a very readily understood and reliable form. They could always go deeper. You can always go deeper with them, with either the information that we provide or you can provide separately. But this is a terrific way to capture something and get people to feel like they're doing something. It's something that is easily recognized and easily understood. And so I think that that's the main thing to get out of Home Energy Score and also being part of a national program. But we offer marketing materials and all that to our partners, as well as the ability to work with us on research and those types of other efforts that you can get by working with DOE. Do any of you want to add anything to that?

Patty Kappaz:

We also provide account managers that will work with you one-on-one and help you get up and running, and make sure that you have all the resources you need to be successful. Are there to help along the way. So it's a nice resource that our partners have.

Gannate Khowailid:

Just super-quick. So I had a call earlier, in fact, immediately before that call, and they asked the same question for a potential partner interested in working with us. Because, from my experience working with partners, some want to work with us because they feel like the DOE brand just gives them more confidence and supports their case in front of the homeowner. Other folks feel that the modeling tool, because it's coming from the DOE, then I'm more trusted, and they want to use that. Other folks are interested in using the Score because it's just like super-simple and the homeowner gets it. So I ask them what their interest is, and exactly what they said to me was that they feel like the Home Energy Score is becoming the new MPG, and this is becoming a new standard, too, so we want to be ahead of the competition. And that was their drive for starting using the Home Energy Score, and based on what we have done so far, to simplify the message to homeowners and homebuyers and trying to get more engagement in terms of energy efficiency.

Joan Glickman:

Great. Well, sorry we ran a couple minutes past. And I apologize for those who we couldn't get to, in terms of your questions, but we will get back to you either through individual emails or something on the web, which we'll let you know about. And I believe this is recorded, if you want to pass it along to anyone. It will be on our website.

Patty Kappaz:

OK, I think that's it. Thank-you, everyone, again, for calling in today and enjoy the rest of your day. Thanks, Glenn and Joan and everyone else who participated on our end.

Joan Glickman:

Thank-you. Bye-bye.